

Application Number 09/742,625
Responsive to Office Action mailed April 23, 2007

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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims 1-36 (Cancelled)

Claim 37 (Currently Amended): A process for the manufacture of polymer coated composite substrate, said process consisting essentially of:

providing a compressible mat, wherein the compressible mat comprises at least one of fibers and particles in a resin binder composition;

applying on a surface of the compressible mat a formaldehyde-free, chemically crosslinkable primer coating composition, comprising:

95 to 99 % by weight, based on weight of dry materials in the composition, of an anionically stabilized aqueous emulsion of a copolymer with a T_g of -10 °C to 50 °C, the polymer comprising in polymerized form a polymerization mixture containing two or more ethylenically unsaturated monomers; 0.2 to 5% by weight of a polyimine compound having a number average molecular weight from 250 to 20,000; and 0.2 to 5% by weight of a volatile base;

wherein the chemically crosslinkable composition forms a chemically crosslinked polymer matrix when, or as, the composition is being applied to the compressible mat;

applying on the crosslinked polymer matrix a top coat composition comprising a thermoplastic or a thermosetting polymer latex composition to form a top coat layer; and

compressing and heating the crosslinked polymer matrix, the top coat layer, and the compressible mat to form the polymer coated composite substrate.

Claim 38 (Original): The process of claim 37 wherein the compressible mat further comprises a sheet of paper which is glued to the surface of the mat.

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Claim 39 (Previously presented): The process of claim 38 wherein the crosslinked polymer matrix is formed on the paper.

Claim 40-50 (Cancelled).

Claim 51 (Previously presented): The process of claim 37, wherein the chemically crosslinkable composition has a solids content from about 30% to about 80% by weight.

Claim 52 (Previously presented): The process of claim 37, wherein the chemically crosslinkable composition has a solids content from about 20% to about 70% by weight.

Claim 53-66 (Cancelled).

Claim 67 (Previously Presented): The process of claim 37, wherein the primer coating composition has a pH of about 8 to about 11.

Claim 68 (Previously Presented): The process of claim 37, wherein up to up to 5 wt% of the monomers in the polymerization mixture are α - β -ethylenically unsaturated aliphatic carboxylic acid monomers.

Claim 69 (Previously Presented): The process of claim 37, wherein the monomers comprise (meth)acrylate monomers.

Claim 70 (Previously Presented): The process of claim 37, wherein the volatile base comprises ammonium hydroxide.

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Claim 71 (New): A process for the manufacture of polymer coated composite substrate, said process consisting essentially of:

providing a compressible mat, wherein the compressible mat comprises at least one of fibers and particles in a resin binder composition;

applying on a surface of the compressible mat a formaldehyde-free, chemically crosslinkable primer coating composition, comprising:

95 to 99 % by weight, based on weight of dry materials in the composition, of an anionically stabilized aqueous emulsion of a copolymer with a T_g of -10°C to 50°C , the polymer comprising in polymerized form a polymerization mixture containing two or more ethylenically unsaturated monomers; 0.2 to 5% by weight of a polyimine compound having a number average molecular weight from 250 to 20,000; and 0.2 to 5% by weight of a volatile base;

wherein the chemically crosslinkable composition forms a chemically crosslinked polymer matrix when, or as, the composition is being applied to the compressible mat;

applying on the crosslinked polymer matrix a top coat composition comprising a thermoplastic or a thermosetting polymer latex composition to form a top coat layer;

compressing and heating the crosslinked polymer matrix, the top coat layer, and the compressible mat to form the polymer coated composite substrate; and

applying a release coat composition on the top coat composition.